

NOTES ON THE SWAINSON'S HAWK IN CENTRAL UTAH: INSECTIVORY, PREMIGRATORY AGGREGATIONS, AND KLEPTOPARASITISM

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ABSTRACT.—A premigratory flock of Swainson's Hawks numbering at least 213 individuals was observed during July and August of 1984. Aerial feeding on grasshoppers was noted and kleptoparasitism was recorded between the Swainson's Hawk and the American Kestrel.

Swainson's Hawk (*Buteo swainsoni*) inhabits open spaces such as plains, prairies, and deserts. Prior to the turn of the century this species was an abundant resident of several western states (Bent 1937). A specimen was collected in Utah's Wasatch Mountains as early as 1868, and the species was reported as a common nesting resident of Summit County, Utah, in 1877 (Hayward et al. 1976).

Yet, Swainson's Hawk could not be considered abundant in central Utah today. For instance, during a 12-month Great Basin raptor survey 1,275 individual raptors representing 12 species were sighted, yielding an average of one sighting per every 10 km traveled. By comparison, nearly 400 km were traversed between each Swainson's Hawk sighting (Woffinden and Murphy 1977a). Furthermore, only one nesting pair has been reported for Cedar Valley, Utah County, Utah (40°00'N, 111°55'–112°35'W) during the past decade (Woffinden and Mosher 1979).

Cedar Valley, situated near the eastern limit of the Great Basin, is characterized by typical cold desert vegetative associations (Shelford 1963). Two small villages, Cedar Fort and Fairfield, are located in the extensively cultivated northern portion of the valley. Except for numerous black willows (*Salix nigra*) associated with these communities, the valley is devoid of large trees. The area supports a sizable raptor community and has been the site of a number of recent studies (Murphy et al. 1969, Smith and Murphy 1973, Woffinden and Murphy 1977b).

On 23 July 1984, 36 Swainson's Hawks were observed immediately west of Fairfield. Subsequently, 213 individuals were counted dur-

ing a visit to the area on 6 August, and 59 were observed on 16 August 1984. All the birds were dark or rufous phase individuals (Brown and Amadon 1968:585), and many had lost flight and/or tail feathers. This unusual accumulation represents the largest flock of Swainson's Hawks ever reported for this portion of the state.

Although the aggregation was apparently a premigratory gathering, it was impossible to determine accurate arrival and departure dates.

However, a local resident stated that large numbers of hawks first appeared near the middle of July. Large flights of Swainson's Hawks have been reported for several areas throughout the United States (Bent 1937, Cruickshank 1937, Fox 1956, Martin and McEneaney 1984), but premigratory accumulations of the magnitude reported here have rarely been recorded.

Swainson's Hawk is noted for its insectivorous diet (Bent 1937, Taylor 1946, Hayward et al. 1976). For instance, White (1966) recovered 230 crickets from a female collected on a Kansas farm. However, the species consumes a variety of other organisms, including mammals, birds, reptiles, amphibians, fish, crayfish, and beetles (Bent 1937, White 1966, Sexton and Marion 1974, Dunkle 1977, Bechard 1983). In spite of the early reports of insectivory, recent studies suggest that mammals make up the major portion of the hawk's diet (Dunkle 1977, Fitzner 1977, Bechard 1980, 1983).

Twenty Swainson's Hawks were observed soaring near Fairfield, Utah, on the afternoon of 23 July 1984. An additional 16 individuals

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were perched in a group of nearby trees. Swarms of grasshoppers (*Melanoplus femurrubrum*) were observed in the area flying from the ground or vegetation and ascending to considerable heights.

Soaring hawks were observed repeatedly extending one or both feet to quickly snatch ascending grasshoppers. All but four of the perched birds joined the soaring flock during the 15 minutes they were observed actively feeding. By 1745 h the hawks had drifted out of sight to the west, and only a few airborne grasshoppers were still visible. This unique feeding behavior corresponds exactly with an account in Bent (1937:229). Similar Swainson's Hawk feeding behavior was noted during one other visit to the area.

Although the hawks were taking advantage of an abundant food source, it is not known if the grasshopper outbreak was responsible for the unusual aggregation noted. Grasshoppers were also abundant during the summer of 1972, but large groups of Swainson's Hawks were not observed in the area at that time. The bulk of the hawks were confined to the Fairfield locale; only four were sighted during searches throughout much of the remainder of the valley.

Kleptoparasitism (interspecific food stealing or piracy) has been reported for several avian families (see Brockman and Barnard 1979 for a review). Heredia and Clark (1984) summarized the occurrence of this behavior among the raptors, including four buteonine species as participants. Swainson's Hawk was excluded. Piracy involving this species and the American Kestrel (*Falco sparverius*) is reported here.

Approximately 34 Swainson's Hawks and 3 Kestrels were observed in the immediate vicinity of Fairfield on 16 August 1984. Several of the buteos were soaring; the remainder were perched in trees, on fence posts, and on utility poles. A Kestrel holding an unknown species of small mammal was perched on a utility line some distance from Swainson's Hawks. It flushed as the vehicle approached and flew a few meters before alighting again on one of the conductors. The procedure was repeated several times. Each flight brought the Kestrel nearer to the perched hawks.

Finally, two Swainson's Hawks left their perch in a nearby tree and flew directly at the

Kestrel. After flushing the Kestrel from the line, they actively pursued it for several seconds. In response to the harassment, the Kestrel dropped the prey it was holding. One of the pursuing hawks caught the falling prey before it reached the ground, only to be vigorously chased by the second. The prey was dropped once more and fell to the ground. Both hawks made a few cursory passes over the site and then flew to nearby fence posts where they remained perched during the duration of my visit. The Kestrel returned to the utility line.

Brockman and Barnard (1979) suggest that continual raptor interactions at feeding areas may promote piracy. The deliberate actions of the Swainson's Hawk I observed suggest previous piratical experience. Since the site is prime Kestrel habitat and the Swainson's Hawks had been residents of the area for several weeks, the possibility of previous interspecific interactions was likely. Heredia and Clark (1984) suggest that similar niche overlap may have played a role in the piracy they observed between the Black-shouldered Kite (*Elanus caeruleus leucurus*) and White-tailed Hawk (*Buteo albicaudatus*). Although kleptoparasitism is a frequently observed avian behavior, it appears to occur opportunistically and is probably not an important feeding strategy (Fuchs 1977, Maxson and Bernstein 1982).

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